

San Diego DX Club Bulletin

November/December 2020



MEETING PROGRAM:

BOB HEIL, K9EID

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WED. NOVEMBER 25, 2020 6:30 P.M.

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From the Prez . . .

Pat, WA6MHZ

SDDXC Meeting on Zoom

Time: Wednesday, November 25, 2020 06:30 P.M. Pacific Time (US and Canada)

Join Zoom Meeting

[https://us02web.zoom.us/j/82778576554?](https://us02web.zoom.us/j/82778576554?pwd=OVRNWTlDcGJvVHN3K1hsc1p5eDJ4QT09)

[pwd=OVRNWTlDcGJvVHN3K1hsc1p5eDJ4QT09](https://us02web.zoom.us/j/82778576554?pwd=OVRNWTlDcGJvVHN3K1hsc1p5eDJ4QT09)

Meeting ID: 827 7857 6554

Passcode: 673363

One tap mobile

+16699006833,,82778576554#,,,,,0#,,673363# US (San Jose)

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Dial by your location

+1 669 900 6833 US (San Jose)

+1 253 215 8782 US (Tacoma)

+1 346 248 7799 US (Houston)

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Meeting ID: 827 7857 6554

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Find your local number: [https://us02web.zoom.us/j/82778576554?](https://us02web.zoom.us/j/82778576554?pwd=OVRNWTlDcGJvVHN3K1hsc1p5eDJ4QT09)

Best DX,

73,

Pat, WA6MHZ

Secretary/Treasurer Reports

Randy, KQ6RS

SDDXC Meeting Minutes, October 28, 2020

Our October meeting was held using the Zoom video conferencing application. 23 members and four guests participated.

At 6:39 P.M. Eric Gruff, NC6K called the meeting to order.

Our guests were Richard Sherwood, N6RU, Ken Wing, KW1NG, Ned Stearns, AA7A (our presenter) and Steve Rose, VK3JA.

The club voted and approved Dennis Younker, NE6I as a member.

Announcements: Bob Heil, K9EID will be the presenter for our November 25th meeting.

At 6:51 P.M. we started the roundtable.

We took a break at 7:38 P.M.

At 7:50 Ned Stearns, AA7A gave a presentation on the Challenges and Rewards of Remote Operating.

At 9:01 P.M. the meeting was adjourned.



Treasurer's Report

Income for October: \$49.12 for membership

Expenses for October: None

Balance on 11/14/2020 \$5,421.73

Randy, KQ6RS

SDDXC TOP 10

By John, K6AM



CURRENT COUNTRIES CONFIRMED ON CW

11/20	11/19	CALL	C-D	CFM	WKD	CHG
1.	1.	K9RHY	339	351	351	-
2.	4.	K6AM	339	349	349	+1
3.	2.	N6CW	338	366	366	-
4.	3.	NØRR	338	353	353	-
5.	5.	K6XT	337	350	350	-
6.	6.	K6ZH	335	342	342	-
7.	7.	N7CW	335	336	336	-
8.	8.	W6YI	333	340	343	-
9.	9.	NN6K	330	334	334	-
10	10.	KØXB	329	339	349	-

11/20	11/19	CALL	C-D	CFM	WKD	CHG
11.	12.	K5OA	325	331	331	+4
12.	11.	WN6K	323	334	341	-
13.	-.	NE6I	323	329	220	NEW
14.	13.	NA6L	307	307	310	-
15.	16.	W5BN	301	301	323	+6
16.	14.	N6VS	300	304	310	-
17.	15.	WB6BFG	297	300	305	-
18.	17.	N6XT	287	289	289	-
19.	18.	W6HDG	258	258	282	-
20.	19.	N6MUF	257	263	268	-

We've expanded the CW Top 10 to include the top 20 players. Since no one in the Club ever worked P5 on CW, the number to hit on CW now stands at 339. Most of the action is in the second 10 with K5OA and W5BN moving up and Dennis, NE6I hitting the ground running with a 323 total.

Each month, we will publish a top ten list for one of the lesser-recognized but hard won categories. Coming up next, 10/40M and 80/20M. Please send me your totals for each band and mode throughout the year and you will be listed in coming months. Use the convenient form at <http://www.sddxc.org> or bring 'em to the meeting.

CHECK YOUR LOGS

It's time once again to recognize those of you who have made outstanding DX achievements during the year. Please check your logs and let me know if you worked your 331st current country or more than 20 all time new countries during 2020. Send your totals to k6am at arrl dot net.

John, K6AM

SDDXC Contest Results

By John, K6AM

2020 ARRL DX SSB CONTEST



CLASS	CALL	SCORE	QSO'S	MLTS	FINISH
MS	ZF1A (K6AM K6JO N6WIN ops)	6,461,532	7,368	297	#1 WORLD
MS	N7NR (ops N6KI N7NR VE4EA @WA6TQT)	964,275	1,102	299	#1 SW DIV, #6 US/VE
MS	NX6T (KN6DLG N6CY N6ERD W2PWS WQ6X ops)	642,249	910	243	#2 SW DIV, #12 US/VE
SO LP	NT6Q (N5ZO)	423,864	708	203	#1 SW DIV, #4 US/VE
SOU HP	N7CW	69,192	189	124	
SO LP	WN6K	64,092	203	109	#3 SW DIV
SO HP	W6JBR	6,726	59	38	
SOU HP	NE6I	4,995	47	37	
SO LP	W6ZAR	4,182	42	34	

John, K6AM

From the Editor

Bob, K9RHY

The Russian Woodpecker

I'm reprinting this bit of "DX nostalgia" from my first try at producing the SDDXC Bulletin originally published in November 2009.

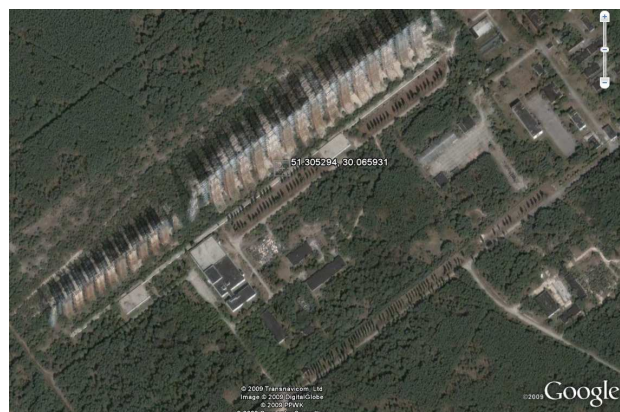
Old Timer DXers (like myself) remember battling the "Russian Woodpecker" between July 1976 and December 1989.

The Woodpecker was a Russian signal that sounded like a sharp, repetitive tapping noise and played havoc with 20 and 40 meters. The repetition rate was about 10 Hz, leading to the "Woodpecker" name. Random frequency hops disrupted not only DXers but broadcast and utility transmissions as well.

At the time, most of my fellow NIDXA (Northern Illinois DX Association) members speculated that the Woodpecker was part of a gigantic over-the-horizon radar (OTH) system. My Kenwood TS-950S had a special noise blanker (NB 2) specifically designed to attenuate "long duration pulse noise, like the "woodpecker".

The OTH theory was confirmed after the fall of the Soviet Union, and we now know that the Woodpecker was the Duga-3 system, part of the Soviet ABM early-warning network. The Russians were looking for a way to know if we opened our silo doors and let our Minutemen and Peacekeepers fly. Satellite networks were not yet well enough developed for this specific task, so the Russians began working on over-the-horizon radar systems in the late 1960s.

According to the Wikipedia, the first experimental system, Duga-1, was built outside Mykolaiv in Ukraine, successfully detecting rocket launches from the Baikonur Cosmodrome about 2,500 kilometers away. This was followed by the prototype Duga-2, built on the same site, which was able to track launches from the Far East and submarines in the Pacific Ocean as the missiles flew towards Novaya Zemlya. Both of these radars were aimed east and were fairly low power, but with the concept proven work began on an operational system. The new Duga-3 systems used a transmitter and receiver separated by about 60 km. Transmission power on the Woodpecker transmitters was estimated to be as high as 10 MW EIRP.



One idea, widely advocated by Wayne Green, W2NSD, through his **73 Magazine** editorials was for DXers to combat the Woodpecker by jamming the signal by transmitting CW signals at the same pulse rate. Unfortunately, my experience was that CW signals didn't have any effect.

FCC data analysis showed a frequency range of 7 to 19 MHz, a bandwidth of 0.02 to 0.8 MHz, and typical transmission time of 7 minutes. The most common repetition rate was 10 Hz. The pulses transmitted by the woodpecker had a wide bandwidth, typically 40 kHz.

Triangulation revealed that the Woodpecker's signals came from Ukraine. Unknown to most DXers, NATO was aware of the installation and referred to it as "Steel Yard".

As more information about the signal became available, its purpose as a radar signal became increasingly obvious. In particular, its signal contained a clearly recognizable structure in each pulse, which was eventually identified as a 31-bit pseudo-random binary sequence, with a bit-width of 100 μ s resulting in a 3.1 ms pulse. This sequence is usable for a 100 μ s chirped pulse amplification system, giving a resolution of 15 km (10 mi) (the distance light travels in 50 μ s). When a second Woodpecker appeared, this one located in eastern Russia but also pointed toward the US and covering blank spots in the first system's pattern, this conclusion became inescapable.

Have a Happy Thanksgiving. Be sure to give thanks for the great times we've had together and add a wish or two that we can soon reconvene face to face. No SDDXC Bulletin in December. This is the last edition of 2020.

Bob, K9RHY